CLAIMS

1. A cellular reservoir flexible pressure vessel, comprising:

a plurality of flexible tubes, each of said tubes being formed of resilient material and having an outer surface, an inner surface, a first end and a second end;

first and second end caps, each of said end caps having a receptacle for either of the first and second ends of each of said flexible tubes, a collecting reservoir, a surrounding outer rim and an outer perimeter perpendicular to said surrounding outer rim;

at least one of said first and second end caps having a passageway connecting to said collecting reservoir as a connection to either of a passageway of another pressure vessel and a valve;

each of said receptacles having a surrounding wall, a base and an orifice penetrating said base;

said orifice connecting said receptacle to either of said collecting reservoir and said passageway;

said wall having an interior surface, said interior surface being sized and shaped to fit frictionally over said outer surface of one of said flexible tubes at either of said first and second ends;

said collecting reservoir having an outer surface and connecting said base of each of said receptacles to a common space, said common space being either of closed and connected to said passageway;

said surrounding outer rim extending outwardly from said outer surface of said collecting reservoir for a first predetermined distance along said flexible tubes and serving to constrain said flexible tubes;

means for securing said first and second end caps to said flexible tubes;

a valving means, said valving means being capable of controlling a flow of either of a liquid and a gas through said passageway and being attached to a distal end of said passageway; and

whereby, when said flexible tubes are inserted into said receptacles of said end caps and secured thereto, a flexible pressure vessel will be formed capable of containing either of a liquid and a gas at high pressure.

2. A cellular reservoir flexible pressure vessel, as described in Claim 1, wherein the means for securing the first and second end caps to the flexible tubes is selected from the group comprising:

radio frequency welding, high-strength adhesive, mechanical fastening and sonic welding.

3. A cellular reservoir flexible pressure vessel, as described in Claim 1, further comprising:

a protruding rim, said protruding rim being disposed at said outer perimeter of said first and second end caps and upper and lower receiving notches disposed above and below said protruding rim;

a reinforcing ring, said reinforcing ring having an inner surface, an outer surface, being formed of high-strength material and being sized and shaped to fit tightly about the outer perimeter of said end caps;

said reinforcing ring having an upper and lower projecting ribs and a central receiving notch disposed between said upper and lower projecting ribs;

said projecting ribs being sized, shaped and disposed to fit said upper and lower receiving notches of said end caps;

said central receiving notch being sized, shaped and disposed to fit said protruding rim of said end caps;

said reinforcing ring having an aperture, said aperture extending from said inner surface to said outer surface and being sized, shaped and disposed to accommodate said passageway of said end caps;

whereby, when said reinforcing ring is disposed about the outer perimeter of said first and second end caps, the pressure handling capacity of said pressure vessel is increased.

4. A cellular reservoir flexible pressure vessel, as described in Claim 1, further comprising:

a protruding rim; said protruding rim being disposed at said outer perimeter of said first and second end caps and upper and lower receiving notches, said upper and lower receiving notches being disposed above and below said protruding rim;

upper and lower a reinforcing rings, each of said reinforcing rings having an inner surface, an outer surface, being formed of high-strength material and being sized and shaped to fit tightly in either of said upper and lower receiving notches;

at least one of said reinforcing rings having an aperture, said aperture extending from said inner surface to said outer surface and being sized, shaped and disposed to accommodate said passageway connecting to said collecting reservoir; and

whereby, when said reinforcing rings are disposed about the outer perimeter of said first and second end caps, the pressure handling capacity of said pressure vessel is increased.

5. A cellular reservoir flexible pressure vessel as described in Claim 4, further comprising means for fastening said upper reinforcing ring to said lower reinforcing ring.

6. A cellular reservoir flexible pressure vessel, as described in Claim 1, further comprising:

A protruding rim, said protruding rim being disposed at said outer perimeter of said first and second end caps;

at least one groove disposed about said outer perimeter above said protruding rim;

at least one groove disposed about said outer perimeter below said protruding rim;

upper and lower reinforcing rings, each of said reinforcing rings having an inner surface, an outer surface, being formed of high-strength material and being sized and shaped to fit tightly about said outer perimeter on either side of said protruding rim;

each of said reinforcing rings having at least one rib disposed upon the inner surface thereof, said rib being sized, shaped and disposed to engage said groove; and

whereby, when said reinforcing rings are disposed about the outer perimeter of said first and second end caps, the pressure handling capacity of said pressure vessel is increased.

7. A cellular reservoir flexible pressure vessel as described in Claim 6, further comprising means for fastening said upper reinforcing ring to said lower a reinforcing ring.

8. A cellular reservoir flexible pressure vessel as described in Claim 1, further comprising:

a sintactic foam filler, said foam filler being disposed within said collecting reservoir of at least one of said first and second end caps;

said foam filler having a series of canals therethrough, each of said canals connecting said orifice of said receptacle to said passageway;

an opening in said end caps, said opening providing means for introduction of said sintactic foam into said end caps;

a sealing plug, said sealing plug being sized and shaped to fit sealably into said opening in said end caps; and

whereby, when said sintactic foam is introduced into said end caps, the pressure handling capacity of said pressure vessel is increased.

9. A cellular reservoir flexible pressure vessel as described in Claim 1, further comprising:

a sintactic foam filler, said foam filler being disposed within said collecting reservoir of at least one of said first and second end caps;

said foam filler being penetrated by a series of flexible microtubes, each of said microtubes connecting said orifice of said receptacle to said passageway;

an opening in said end caps, said opening providing means for introduction of said sintactic foam into said end caps;

a sealing plug, said sealing plug being sized and shaped to fit sealably into said opening in said end caps; and

whereby, when said microtubes are connected to the orifices of said receptacles in said end caps, the purity of either of liquids and gasses stored in said pressure vessel is increased.

10. A cellular reservoir flexible pressure vessel, as described in Claim 1, further comprising:

an overwrapping of high-strength braiding material, said braiding material extending over said flexible tubes and said first and second end caps; and

whereby, when the flexible pressure vessel is so overwrapped, its pressure-handling capability will be increased.

11. A cellular reservoir flexible pressure vessel, as described in Claim 1, further comprising:

hoop winding with high-strength materials, said hoop winding extending over said flexible tubes and said first and second end caps; and

whereby, when the flexible pressure vessel is so hoop wound, its pressure-handling capability will be increased.

12. A cellular reservoir flexible pressure vessel, as described in Claim 10, further comprising a plastic overcoating, said overcoating further increasing the pressure-handling capability of the pressure vessel.

13. A cellular reservoir flexible pressure vessel, as described in Claim 11, further comprising a plastic overcoating, said overcoating further increasing the pressure-handling capability of the pressure vessel.

14. A cellular reservoir flexible pressure vessel, as described in Claim 1, further comprising:

a first flexible blanket, said first blanket having an upper surface, a lower surface and being sized and shaped to cover said pressure vessel and extending outwardly beyond outer edges thereof;

said first blanket being fixedly attached at its lower surface to an upper surface of said pressure vessel;

a second flexible blanket, said second blanket having an upper surface, a lower surface and being sized and shaped to cover said pressure vessel and extending outwardly beyond said outer edges;

said second blanket being fixedly attached at its upper surface to a lower surface of said pressure vessel; and

whereby, when said first and second flexible blankets are attached to said pressure vessel, the pressure handling capability of the pressure vessel will be increased.

15. A cellular reservoir flexible pressure vessel as described in Claim 14, wherein heavy duty stitching is used to attach the first blanket to the second blanket, said stitching penetrating the first and second blankets and serving to further reinforce and increase the pressure-handling capabilities of the pressure vessel.

16. A cellular reservoir flexible pressure vessel as described in Claim 15, wherein the heavy duty stitching is high pressure hoop and lock braiding.

17. A cellular reservoir flexible pressure vessel, as described in Claim 1, wherein the cross-sectional shape of the outer surface of the flexible tubing is selected from the group comprising:

square, triangular, round, hexagonal, ovoid, octagonal and star-shaped.

18. A cellular reservoir flexible pressure vessel, as described in Claim 1, wherein the cross-sectional shape of the inner surface of the flexible tubing is selected from the group comprising:

square, triangular, round, hexagonal, ovoid, octagonal and star-shaped.

19. A cellular reservoir flexible pressure vessel, as described in Claim 1, wherein the cross-sectional shape of the flexible pressure vessel is selected from the group comprising:

square, triangular, round, hexagonal, ovoid, octagonal, pillow shaped, saddle shaped and a flattened mat shape.

20. A cellular reservoir flexible pressure vessel, as described in Claim 1, wherein:

each of said receptacles are of a concave form selected from the group comprising:

conical, dome-shaped, ellipsoid and stair-stepped.

21. A cellular reservoir flexible pressure vessel, as described in Claim 20, wherein said first and second ends of each of said flexible tubes are sized and shaped to fit sealably into said receptacles.

22. A cellular reservoir pressure vessel as described in Claim 1, further comprising:

upper and lower reinforcing panels, said reinforcing panels being formed of high-strength woven material and being shaped as a form to cover at least half of a surface area of said pressure vessel with extensions projecting from a perimeter of said form; and

said reinforcing panels being adhered to an outer surface of said pressure vessel, thereby increasing the pressure handling capability of said vessel.

23. A cellular reservoir flexible pressure vessel as described in Claim 22, wherein the method of adhesion is selected from the group comprising:

high-strength adhesive, sonic welding and RF welding.

24. A cellular reservoir flexible pressure vessel as described in Claim 22, wherein the woven material is prepregnated with either of adhesive and laminating material and subjected to heat and pressure.

25. An apparatus for fabricating a cellular reservoir flexible pressure vessel, comprising:

a raw plastic storage and feeding unit, said storage and feeding unit containing a supply of raw plastic;

a multi-head extruder, said extruder including a heating facility and being in communication with said feeding unit;

a cooling tank, said cooling tank being disposed downstream from said extruder;

a power puller, said puller serving to pull a tubing bundle from said cooling tank;

core tubing forming dies, said forming dies forming said tubing bundle into a predetermined shape;

a binder head, said binder head having an attached binder tank containing liquid binder material;

a binder applicator, said binder applicator comprising a secondary forming die and serving to affix said binder material to said tubing bundle;

a cutting unit, said cutting unit comprising a laser calibration facility and serving to cut said tubing bundle to a predetermined length;

a conveyer facility, said conveyer facility comprising means for positioning a cut tubing bundle;

a rotating head and ram, said head comprising a glue head applicator;

said glue head applicator attached to a glue tank;

a plurality of preformed end caps;

an automated end cap loader, said end cap loader positioning said plurality of end caps;

an automated end cap installer attached to said automated end cap loader, said installer serving to attached said end caps to said tubing bundle; and

a high-intensity UV lamp assembly, said lamp assembly serving to cure said glue.

26. An apparatus for fabricating a cellular reservoir flexible pressure vessel, as described in Claim 25, further comprising:

a plurality of reinforcing rings, said reinforcing rings being formed of high-strength material;

a reinforcing ring auto loader;

a swivel ram, said ram comprising a ring loading and placement head; and

said swivel ram being in cooperation with said ring auto loader and serving to press said reinforcing ring onto said pressure vessel.

27. An apparatus for fabricating a cellular reservoir flexible pressure vessel, as described in Claim 25, further comprising:

either of a gas and liquid supply tank;

an auto loader test head, said test head being adaptable to fittings on said end caps; and

a cryogenic test unit in communication with said test head, said test head and said test unit providing means for pressurizing said pressure vessel.

28. An apparatus for fabricating a cellular reservoir flexible pressure vessel, as described in Claim 25, further comprising:

reinforcing blanket material;

a glue spraying mechanism, said mechanism comprising glue tanks, glue spray heads and glue for attaching said blanket material to said pressure vessel;

a blanket material feed mechanism; and

a press forming tool, said tool being adapted to form said blanket material over said cut tubing bundle and attached to said end caps.

29. An apparatus for fabricating a cellular reservoir flexible pressure vessel, as described in Claim 28, further comprising:

high-strength thread; and

a stitching head, said stitching head being adapted to sew said high-strength thread through said reinforcing blanket material.

30. An apparatus for fabricating a cellular reservoir flexible pressure vessel, as described in Claim 25, further comprising:

high-strength braiding material;

a braider, said braider being adapted to position and provide overwrapping of said pressure vessel with said braiding material; and

a binder spraying mechanism, said spraying mechanism comprising a binder tank, a binder spray head and binder material.

31. An apparatus for fabricating a cellular reservoir flexible pressure vessel, as described in Claim 25, further comprising:

high-strength reinforcing ribbon;

an automated reinforcing ribbon winding machine, said winding machine comprising a reinforcing ribbon spool and an auto layout ribbon head; and

a binder spraying mechanism, said spraying mechanism comprising a binder tank, a binder spray head and binder material.

32. An apparatus for fabricating a cellular reservoir flexible pressure vessel, as described in Claim 25, further comprising:

means for pulling a series of high tensile strength core wires through orifices in receptacles in said end cap to a passageway in said end cap;

means for injecting sintactic foam through an opening in said end cap;

means for attaching a sealing plug to said opening;

means for removing said core wires from said end cap; and

whereby, when said core wires are removed from said end cap, a series of canals will be formed in said sintactic foam connecting orifices in receptacles in said end cap to said passageway.

33. An apparatus for fabricating a cellular reservoir flexible pressure vessel, as described in Claim 25, further comprising:

means for attaching a series of flexible microtubes to orifices in receptacles in said end cap to a passageway in said end cap;

means for injecting sintactic foam through an opening in said end cap;

means for attaching a sealing plug to said opening;

means for removing said core wires from said end cap; and

whereby, when said microtubes are connected to said passageway, said pressure vessel will provide an ultra clean environment for either of liquids and gasses.

34. An apparatus for fabricating a cellular reservoir flexible pressure vessel, as described in Claim 25, further comprising:

means for forming a concave receptacle having a shape selected from the group comprising:

conical, dome-shaped, ellipsoid and stair-stepped.

35. An apparatus for fabricating a cellular reservoir flexible pressure vessel, as described in Claim 34, further comprising means for forming said first and second ends of each of said flexible tubes to fit sealably into said receptacles.

36. An apparatus for fabricating a cellular reservoir pressure vessel as described in Claim 25, further comprising:

means for forming upper and lower reinforcing panels, said reinforcing panels being formed of high-strength woven material and being shaped as a form to cover at least half of a surface area of the pressure vessel with extensions projecting from a perimeter of said form; and

means for adhering said reinforcing panels to said outer surface of said pressure vessel, thereby increasing the pressure handling capability of said pressure vessel.

37. A cellular reservoir flexible pressure vessel as described in Claim 36, wherein the method of adhesion is selected from the group comprising:

high-strength adhesive, sonic welding and RF welding.

38. A cellular reservoir flexible pressure vessel as described in Claim 36, wherein the woven material is prepregnated with either of adhesive and laminating material and subjected to heat and pressure.

39. A method for fabricating a cellular reservoir flexible pressure vessel, comprising the steps of:

providing a raw plastic storage and feeding unit, said storage and feeding unit containing a supply of raw plastic;

providing a multi-head extruder, said extruder including a heating facility and being in communication with said feeding unit;

providing a cooling tank, said cooling tank being disposed downstream from said extruder;

heating said raw plastic in said heating facility;

extruding multiple plastic tubes from said extruder into said cooling tank;

providing a power puller;

pulling a tubing bundle from said cooling tank;

providing core tubing forming dies;

forming said tubing bundle into a predetermined shape;

providing a binder head, said binder head having an attached binder tank containing liquid binder material;

a binder applicator, said binder applicator comprising a secondary forming die;

affixing said binder material to said tubing bundle and further forming said bundle;

providing a cutting unit, said cutting unit comprising a laser calibration facility;

cutting said tubing bundle to a predetermined length;

providing a conveyer facility;

positioning a cut tubing bundle on said conveyor belt;

providing a rotating head and ram, said head comprising a glue head applicator;

said glue head applicator attached to a glue tank;

providing a plurality of preformed end caps;

providing an automated end cap loader, said end cap loader positioning said plurality of end caps;

providing an automated end cap installer attached to said automated end cap loader;

positioning said end caps in said automated end cap installer;

attaching said end caps to said tubing bundle;

providing a high-intensity UV lamp assembly; and

curing said glue holding said end cap to said tubing bundle.

40. A method for fabricating a cellular reservoir flexible pressure vessel, as described in Claim 39, further comprising the steps of:

providing a plurality of reinforcing rings, said reinforcing rings being formed of high-strength material;

providing a reinforcing ring auto loader;

providing a swivel ram, said ram comprising a ring loading and placement head;

said swivel ram being in cooperation with said ring auto loader; and

pressing said reinforcing ring onto said pressure vessel.

41. A method for fabricating a cellular reservoir flexible pressure vessel, as described in Claim 39, further comprising the steps of:

providing either of a gas and liquid supply tank;

providing an auto loader test head, said test head adaptable to fittings on said end caps; and

providing a cryogenic test unit in communication with said test head;

pressurizing said pressure vessel.

42. A method for fabricating a cellular reservoir flexible pressure vessel, as described in Claim 39, further comprising the steps of:

providing reinforcing blanket material;

providing a glue spraying mechanism, said mechanism comprising glue tanks, glue spray heads and glue for attaching said blanket material to said pressure vessel;

providing a blanket material feed mechanism;

providing a press forming tool, said tool being adapted to form said blanket material over said cut tubing bundle and attached end caps;

spraying glue onto one side of said reinforcing blanket material; and

pressing said blanket material onto upper and lower surfaces of said pressure vessel.

43. A method for fabricating a cellular reservoir flexible pressure vessel, as described in Claim 42, further comprising the steps of:

providing high-strength thread;

providing a stitching head, said stitching head adapted to sew said high-strength thread through said reinforcing blanket material; and

stitching through said blanket material on either side of said pressure vessel.

44. A method for fabricating a cellular reservoir flexible pressure vessel, as described in Claim 39, further comprising the steps of:

providing high-strength braiding material;

providing a braider

positioning and overwrapping said pressure vessel with said high-strength braiding material;

providing a binder spraying mechanism, said spraying mechanism comprising a binder tank, a binder spray head and binder material; and

spraying binder material on said overwrapping of high-strength braiding material.

45. A method for fabricating a cellular reservoir flexible pressure vessel, as described in Claim 39, further comprising the steps of:

providing high-strength reinforcing ribbon;

providing an automated reinforcing ribbon winding machine, said winding machine comprising a reinforcing ribbon spool and an auto layout ribbon head;

hoop winding said pressure vessel with said high-strength reinforcing ribbon;

providing a binder spraying mechanism, said spraying mechanism comprising a binder tank, a binder spray head and binder material; and

spraying binder material on said overwrapping of high-strength reinforcing ribbon.

46. A method for fabricating a cellular reservoir flexible pressure vessel, as described in Claim 39, further comprising the steps of:

pulling a series of high tensile strength core wires through orifices in receptacles in said end cap to a passageway in said end cap;

injecting sintactic foam through an opening in said end cap;

attaching a sealing plug to said opening;

removing said core wires from said end cap; and

whereby, when said core wires are removed from said end cap, a series of canals will be formed in said sintactic foam connecting orifices in receptacles in said end cap to said passageway.

47. A method for fabricating a cellular reservoir flexible pressure vessel, as described in Claim 39, further comprising the steps of:

attaching a series of flexible microtubes to orifices in receptacles in said end cap to a passageway in said end cap;

injecting sintactic foam through an opening in said end cap;

means for attaching a sealing plug to said opening;

removing said core wires from said end cap; and

whereby, when said microtubes are connected to said passageway, said pressure vessel will provide an ultra clean environment for either of liquids and gasses.

48. A method for fabricating a cellular reservoir flexible pressure vessel, as described in Claim 39, further comprising the steps of:

forming a concave receptacle having a shape selected from the group comprising:

conical, dome-shaped, ellipsoid and stair-stepped.

49. A method for fabricating a cellular reservoir flexible pressure vessel, as described in Claim 48, further comprising the step of forming said first and second ends of each of said flexible tubes to fit sealably into said receptacles.

50. A method for fabricating a cellular reservoir pressure vessel as described in Claim 39, further comprising the steps of:

forming upper and lower reinforcing panels, said reinforcing panels being formed of high-strength woven material and being shaped as a form to cover at least half of a surface area of the pressure vessel with extensions projecting from a perimeter of said form; and

adhering said reinforcing panels to said outer surface of said pressure vessel, thereby increasing the pressure handling capability of said pressure vessel.

51. A method for fabricating a cellular reservoir flexible pressure vessel as described in Claim 50, further comprising the step of selecting the method of adhesion from the group comprising:

high-strength adhesive, sonic welding and RF welding.

52. A method for fabricating a cellular reservoir flexible pressure vessel as described in Claim 50, further comprising the steps of prepregnating the woven material with either of adhesive and laminating material and subjecting the material to heat and pressure.

53. The cellular reservoir flexible pressure vessel, as described in Claim 1, further comprising:

a first pressure relief device, said first pressure relief device disposed upon an inner surface of either of said first and second end caps and comprising a reduction in thickness of said end cap at a predetermined location;

whereby, when said pressure vessel is subjected to an overpressure condition it will fail at said predetermined location.

54. The cellular reservoir flexible pressure vessel, as described in Claim 53, wherein said first pressure relief device comprises an indentation in said inner surface of either of said first and second end caps, said indentation having side walls angled inwardly from said inner surface.

55. The cellular reservoir flexible pressure vessel, as described in Claim 10, further comprising:

a second pressure relief device, said second pressure relief device disposed upon an outer surface of said flexible pressure vessel and comprising at least one projecting member, said at least one projecting member being sized and shaped to penetrate said high-strength braiding material at a predetermined location; and

whereby, when said high-strength braiding material is penetrated by said projecting member and said flexible pressure vessel is subjected to an overpressure condition, said vessel will fail at said predetermined location.

56. The cellular reservoir flexible pressure vessel, as described in Claim 55, wherein said at least one projecting member is removably attached to said outer surface of said flexible pressure vessel.

57. The cellular reservoir flexible pressure vessel, as described in Claim 11, further comprising:

a second pressure relief device, said second pressure relief device disposed upon an outer surface of said flexible pressure vessel and comprising at least one projecting member, said at least one projecting member being sized and shaped to penetrate said high-strength material at a predetermined location; and

whereby, when said high-strength material is penetrated by said projecting member and said flexible pressure vessel is subjected to an overpressure condition, said vessel will fail at said predetermined location.

58. The cellular reservoir flexible pressure vessel, as described in Claim 57, wherein said at least one projecting member is removably attached to said outer surface of said flexible pressure vessel.

59. The cellular reservoir flexible pressure vessel, as described in Claim 14, further comprising:

a second pressure relief device, said second pressure relief device disposed upon an outer surface of said flexible pressure vessel and comprising at least one projecting member, said at least one projecting member being sized and shaped to penetrate either of said first and second flexible blankets at a predetermined location; and

whereby, when either of said first and second flexible blankets is penetrated by said projecting member and said flexible pressure vessel is subjected to an overpressure condition, said vessel will fail at said predetermined location.

60. The cellular reservoir flexible pressure vessel, as described in Claim 59, wherein said at least one projecting member is removably attached to said outer surface of said flexible pressure vessel.

61. The cellular reservoir flexible pressure vessel, as described in Claim 22, further comprising:

a second pressure relief device, said second pressure relief device disposed upon said outer surface of said flexible pressure vessel and comprising at least one projecting member, said at least one projecting member being sized and shaped to penetrate either of said upper and lower reinforcing panels at a predetermined location; and

whereby, when said either of said upper and lower reinforcing panels is penetrated by said projecting member and said flexible pressure vessel is subjected to an overpressure condition, said vessel will fail at said predetermined location.

62. The cellular reservoir flexible pressure vessel, as described in Claim 61, wherein said at least one projecting member is removably attached to said outer surface of said flexible pressure vessel.

63. The cellular reservoir flexible pressure vessel, as described in Claim 1, further comprising:

a third pressure relief device, said third pressure relief device comprising a weakened section of said passageway; and

whereby, when said flexible pressure vessel is subjected to an overpressure condition, said flexible pressure vessel will fail at said weakened section of said passageway.

64. The cellular reservoir flexible pressure vessel, as described in Claim 63, wherein said weakened section of said passageway has a smaller cross-sectional area than a balance of said passageway.

65. The cellular reservoir flexible pressure vessel, as described in Claim 1, further comprising high-strength braiding material wound about said passageway, thereby providing additional resistance to pressure for said flexible pressure vessel.

66. The cellular reservoir flexible pressure vessel, as described in Claim 65, further comprising:

a fourth pressure relief device, said fourth pressure relief device comprising either of a weakening and an absence of high-strength braiding material at a predetermined location along said passageway; and

whereby, when said flexible pressure vessel is subjected to an overpressure condition, said flexible pressure vessel will fail at said predetermined location along said passageway.

67. The cellular reservoir flexible pressure vessel, as described in Claim 1, further comprising hoop winding about said passageway, thereby providing additional resistance to pressure to said flexible pressure vessel.

68. The cellular reservoir flexible pressure vessel, as described in Claim 67, further comprising:

a fifth pressure relief device, said fifth pressure relief device comprising either of a weakening and an absence of hoop winding at a predetermined location along said passageway; and

whereby, when said flexible pressure vessel is subjected to an overpressure condition, said pressure vessel will fail at said predetermined location along said passageway.

69. The cellular reservoir flexible pressure vessel, as described in Claim 10, further comprising:

either of a weakening and a spreading of fibers in said high-strength braiding material at a predetermined location;

said predetermined location being above an outer surface of said pressure vessel; and

whereby, when said high-strength braiding material has said fibers weakened or spread in said predetermined location and said pressure vessel is subjected to an overpressure condition, said pressure vessel will fail at said predetermined location.

70. The cellular reservoir flexible pressure vessel, as described in Claim 11, further comprising:

either of a weakening and a spreading of fibers in said high-strength material at a predetermined location;

said predetermined location being above an outer surface of said pressure vessel; and

whereby, when said high-strength material has said fibers weakened or spread in said predetermined location and said pressure vessel is subjected to an overpressure condition, said pressure vessel will fail at said predetermined location.

71. The cellular reservoir flexible pressure vessel, as described in Claim 14, further comprising:

either of a weakening and a spreading of fibers in either of said first flexible blanket and said second flexible blanket at a predetermined location;

said predetermined location being above an outer surface of said pressure vessel; and

whereby, when either of said first flexible blanket and said second flexible blanket has said fibers weakened or spread in said predetermined location and said pressure vessel is subjected to an overpressure condition, said pressure vessel will fail at said predetermined location.

72. The cellular reservoir flexible pressure vessel, as described in Claim 22, further comprising:

either of a weakening and a spreading of fibers in either of said upper and lower reinforcing panels at a predetermined location;

said predetermined location being above said outer surface of said pressure vessel; and

whereby, when either of said upper and lower reinforcing panels has said fibers weakened or spread in said predetermined location and said pressure vessel is subjected to an overpressure condition, said pressure vessel will fail at said predetermined location.

73. The cellular reservoir flexible pressure vessel, as described in Claim 1, wherein said connection to either of a passageway of another vessel and a valve further comprises:

a capillary tube, said capillary tube having a proximate end and a distal end, being formed of resilient material and being sized and shaped to fit slidably within said passageway;

high-strength braiding material, said braiding material disposed about said capillary tube and extending along said capillary tube to within a first predetermined distance from said proximate end;

said proximate end of said braiding covered capillary tube being inserted into said passageway and either of radio frequency welded and secured with adhesive therein;

whereby, when said proximate end of said capillary tube is either of welded and secured with adhesive within said passageway, it will be permanently attached thereto.

74. An apparatus for modifying flexible blanket material as described in Claim 71, comprising:

means for supporting a supply roll of flexible blanket material;

means for moving said flexible blanket material from said supply roll to a work area;

means for tensioning said flexible blanket material in said work area;

at least one separating member, said separating member being sized and shaped to penetrate and separate fibers of said flexible blanket material;

means for moving said separating member into said tensioned flexible blanket material at a predetermined location in said material, thereby either of weakening and separating said fibers;

means for retracting said separating member from said tensioned flexible blanket material;

means for moving said flexible blanket material from work area to a storage area; and

whereby, said flexible blanket material will have either of weakened or separated fibers in said predetermined location prior to application to said pressure vessel.

75. An apparatus for modifying reinforcing panel material as described in Claim 72, comprising:

means for supporting a supply roll of reinforcing panel material;

means for moving said reinforcing panel material from said supply roll to a work area;

means for tensioning said reinforcing panel material in said work area;

at least one separating member, said separating member being sized and shaped to penetrate and separate fibers of said reinforcing panel material;

means for moving said separating member into said tensioned reinforcing panel material at a predetermined location in said material, thereby either of weakening and separating said fibers;

means for retracting said separating member from said tensioned reinforcing panel material;

means for moving said reinforcing panel material from work area to a storage area; and

whereby, said reinforcing panel material will have either of weakened or separated fibers in said predetermined location prior to application to said pressure vessel.

76. A method for making the cellular reservoir flexible pressure vessel as described in Claim 71, comprising the steps of:

providing a supply roll of flexible blanket material;

supporting said supply roll;

moving said flexible blanket material from said supply roll to a work area;

tensioning said flexible blanket material in said work area;

providing at least one separating member, said separating member being sized and shaped to penetrate and separate fibers of said flexible blanket material;

moving said separating member into said tensioned flexible blanket material at a predetermined location in said material, thereby either of weakening and separating said fibers;

retracting said separating member from said tensioned flexible blanket material;

moving said flexible blanket material from work area to a storage area; and

whereby, said flexible blanket material will have either of weakened or separated fibers in said predetermined location prior to application to said pressure vessel.

77. A method for making the cellular reservoir flexible pressure vessel as described in Claim 72, comprising:

providing a supply roll of reinforcing panel material;

means for supporting said supply roll;

moving said reinforcing panel material from said supply roll to a work area;

tensioning said reinforcing panel material in said work area;

providing at least one separating member, said separating member being sized and shaped to penetrate and separate fibers of said reinforcing panel material;

moving said separating member into said tensioned reinforcing panel material at a predetermined location in said material, thereby either of weakening and separating said fibers;

retracting said separating member from said tensioned reinforcing panel material;

moving said reinforcing panel material from work area to a storage area; and

whereby, said reinforcing panel material will have either of weakened and separated fibers in said predetermined location prior to application to said pressure vessel.